

NAME: KOBLOWU AYOBAMI FOLUSO

MATRIC NUMBER: 19/MHS01/ 230

COLLEGE: MHS

DEPARTMENT: MBBS

1) CLASSIFICATION OF PLANTS BASED ON ELCHLERS GROUPING IN 1883

DIVISION	CLASS
THALLOPHYTA	Phycotinae [algae] Mycotinae [fungi]
BRYOPHYTA	Hepaticae
PTERIDOPHYTA	Psilotinae [psilotum] Lycopodiinae [lycopodium, selaginella] Equisetinae [horsetails] Filicinae [ferns]
SPERMATOPHYTA	Gymnospermae [gymnosperms] Angiospermae [angiosperms]

2) IMPORTANCE OF ALGAE TO MAN

- i) Algae is harvested for food and cosmetics in the Far East.
- ii) Algae is used as thickening agent in ice cream and shampoo, drugs to ward off disease
- iii) Algae contains high protein contents
- iv) Algae has high iodine content
- v) It can also be used in making fertilizers
- vi) It can also be used in making fodder in fish farming
- vii) Algae can also be used in reclamation of alkaline land

3) DESCRIPTION OF A UNICELLULAR FORM OF ALGAE

Chlamydomonas represent the unicellular and motile forms of green algae. It usually found in stagnant water usually along with other forms. Their structures of mobility are the flagella the cell is bounded by a cellulose cell wall; contains organelles e.g. nucleus, mitochondria, stigma [eye spot], cup-shaped chloroplast, pyrenoid. The Chlamydomonas uses the stigma for photoreception. The mitochondria mediate the elaboration of energy molecules. Manufactured food is processed into starch by the pyrenoid.

4) REPRODUCTION IN CLAMYDOMONAS [UNICELLULAR ALGAE]

Reproduction in clamydomonas can either be vegetative [asexual] or sexual. Asexually vegetative reproduction results in production of daughter cells in which the amount and quality of genetic material in the nucleus of the mother cell is maintained in the daughter cell. Thus if the amount of genetic material in the mother cell is n , the daughter cell also have n quantity of genetic material. This kind of cell division is known as mitotic cell division. In clamydomonas, a cell about to divide loses its flagella. The cell undergoes mitotic cell division resulting to two nuclei. Cell walls are elaborated with delimit cytoplasm around each nucleus.

Sexually certain environmental conditions e.g. lack of nutrients or moisture may trigger the haploid cells to undergo this form of reproduction. Instead of forming spores, these haploid cells form gametes that have two different mating sprains. These opposite mating strains fuse via **ISOGAMY** to form a diploid zygote, containing two sets of chromosomes. After a long period of dormancy these zygote undergo meiosis. These cell division produces four genetically unique haploid cells that grow into matured cells.

5) DIFFERENCE BETWEEN TWO COLONIAL FORMS OF ALGAE

The two colonial forms of algae are pandorina and volvox; pandorina is a colony usually found in water bloom. The colony consists of 16 cells attached to one another. Each cells has many attributes in common with clamydomonas. In this colony, sexual reproduction is achieved by anisogamus pairing. While volvox is a colony that shows more complex forms than pandorina. There are more cells in this colony, number may run thousands and are connected with cytoplasmic strands that run through the cells. Sexual reproduction in this colony is OOGAMOUS

6) DESCRIPTION OF A FUCUS [COMPLEX FORM OF ALGAE]

Fucus known by common names; bladder rack, black tang, rock weed, sea oak, cut weed, rock wrack, is a genus of green brown algae whose species are often found in rocks in the intertidal zones the sea shores, it usually has a life span of four years. They feature bladder-like floats [pneumatocysts], disk-shaped holdfast for clinging to rocks and mucilage- covered blades that resist desiccation and temperature changes. This plant body is flattened, dichotomously-branched thallus with a midrib, a vegetative apex are reproductive apex at maturity and multicellular disk with which plant is attached to rock surface. The plant body also has air bladders which is believed to aid the plant to float on the water there are various species of focus that exist, they vary in size and also vary in terms of whether the sex cells are found in the same sexual chamber or different sexual chamber on different sexual bodies. It is a dioecious organism. Sexual reproduction here is OOGAMUS. Sex cells are produced in conceptacles which have openings on the surface of the thallus